



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBT18601
Job Sheet 201642



Part No: RBT18601

Job Qty: 1 pcs

Part Name: Main Rotor Swashplate ReGreasing Tool



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 10/8/19

Job Tracking No:

Due Date: 11/25/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBT18601 Rev 1C IPP Rev.A 17.09.22 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup Hrs	Run Hrs		
110	Waterjet - Omax - 1	1 pcs		11/25/19	0.17	0.10	Waterjet - Omax	pc 19/11/08 SID / MZ 19-11-10
130	NV5000 - 1 - B4B	1 pcs		11/25/19	1.00	1.00	NV5000 - 1 - B4B	
							NV5000 - 2 - B4B	
140	QC 2	1 pcs		11/25/19	0.00	0.00	QC 2 - 1	SID / MZ 19-11-10
							QC 2 - 12	
							QC 2 - 14	
							QC 2 - 17	
							QC 2 - 19	
							QC 2 - 2	
							QC 2 - 20	
							QC 2 - 22	
							QC 2 - 23	
							QC 2 - 25	
							QC 2 - 32	
							QC 2 - 33	
							QC 2 - 35	
							QC 2 - 39	
							QC 2 - 4	
							QC 2 - 40	
							QC 2 - 44	
							QC 2 - 45	
							QC 2 - 48	
							QC 2 - 49	
							QC 2 - 50	
							QC 2 - 51	
							QC 2 - 52	
							QC 2 - 57	
							QC 2 - 62	
							QC 2 - 63	
							QC 2 - 8	
							QC 2 - 66	

				QC 2 - 64	
				QC 2 - 65	
				QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
150 QC 8	1 pcs	11/25/19	0.00 0.00	QC 8 - 12	
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	19-11-12
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	
				QC 8 - 1 (A)	
				QC 8 - 47	
				QC 8 - 40	
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
				QC 8 - 61	
170 Outsource - 4 - Anodize	1 pcs	11/25/19		ATG001-VE-GRO005	20A-11-14
180 Packaging 2-1 - Receive - B4B	1 pcs	11/25/19	0.00 0.00	Packaging 2 - 1 - B4B	
				Packaging 2 - 2 - B4B	
				Packaging 2 - 3 - B4B	
				Packaging 2 - 5 - B4B	
				Packaging 2 - 4 - B4B	
				Packaging 2 - 6 - B4B	
				Packaging 2 - 7 - B4B	
				Packaging 2 - 8 - B4B	
				Packaging 2 - 9 - B4B	
				Packaging 2 - 10 - B4B	
				Packaging 2 - 11 - B4B	
				Packaging 2 - 12 - B4B	
				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	

					Packaging 2 - 26 - B4B	
					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
190 QC 6	1 pcs	11/25/19	0.00 0.00	QC 6 - 9		
				QC 6 - 68		
				QC 6 - 61		
				QC 6 - 40		
				QC 6 - 81		
200 Small Fab - 2 - B4B	1 pcs	11/25/19	0.00 0.25	Small Fab - 1 - B4B		
				Small Fab - 2 - B4B		
				Small Fab - 3 - B4B		
				Small Fab - 4 - B4B		
				Small Fab - 5 - B4B		
				Small Fab - 6 - B4B		
				Small Fab - 7 - B4B		
				Small Fab - 8 - B4B		
210 QC 5	1 pcs	11/25/19	0.00 0.00	QC 5 - 10		
				QC 5 - 12		
				QC 5 - 17		
				QC 5 - 18		
				QC 5 - 19		
				QC 5 - 22		
				QC 5 - 24		
				QC 5 - 3		
				QC 5 - 43		
				QC 5 - 49		
				QC 5 - 51		
				QC 5 - 58		
				QC 5 - 68		
				QC 5 - 9		
				QC 5 - 50		
				QC 5 - 30		
				QC 5 - 40		
				QC 5 - 61		
				QC 5 - 81		
220 Packaging 3-1 - Stock - B4B	1 pcs	11/25/19	0.00 0.00	Packaging 3 - 1 - B4B		
				Packaging 3 - 2 - B4B		
				Packaging 3 - 3 - B4B		
				Packaging 3 - 4 - B4B		
				Packaging 3 - 5 - B4B		
				Packaging 3 - 6 - B4B		
				Packaging 3 - 7 - B4B		
				Packaging 3 - 8 - B4B		
				Packaging 3 - 9 - B4B		
				Packaging 3 - 10 - B4B		
				Packaging 3 - 11 - B4B		
				Packaging 3 - 12 - B4B		
				Packaging 3 - 13 - B4B		
				Packaging 3 - 14 - B4B		
				Packaging 3 - 15 - B4B		
				Packaging 3 - 16 - B4B		

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				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
230 QC 21 - FG				1 pcs	11/25/19
				0.00 0.00	
				QC 21 - FG - 21	
				QC 21 - FG - 70	
				QC 21 - FG - 53	

Part Op 110 - Waterjet 2 OMAX (Waterjet 2) 1-Cut blanks ***CUT QTY2 PER ASSEMBLY*****Identify each pair as per notes***
 Descriptions: Dwg Rev: 1C Prog Rev: 1C (Red Barn folder) 2-Deburr if necessary
 130 - 1-Face as required 2-Machine as per DWG. Folio FB658 3-DEBURR ***Identify each pair as per notes***
 140 - (QC2- Inspect parts off machine FAI/FAIB)
 150 - (QC8- Inspect parts - second check)
 170 - -Issue P/O to GROUPE ALTECH; PO 45703 -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2
 CLASS-2, Water sealant -Material type; -Certificate of Conformity is required
 180 - (Receive & Inspect for Damage & Mat'l Certs)
 190 - (QC6- All purchased or subcontracted products)
 200 - Assemble as per DWG and cut packings at split line as per notes.
 210 - (QC5- Inspect part completeness to step on W/O)
 220 - (Identify as per dwg & Stock Location: _____)
 230 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M6061T6B0.500X07.000	6061T6 Bar 0.500 X 7.000	1.2000 ft (1.2 ea)	110-Waterjet - Omax - 1	5228358
0-345	345 O-Ring <u>35</u>	61 Ea (1 ea)	200-Small Fab - 2 - B4B	819336
0-353	353 O-Ring <u>35</u>	61 Ea (1 ea)	200-Small Fab - 2 - B4B	223811
13-14X3CSC	1/4 - 20 X 3 Socket Gap <u>31</u>	12 Ea (2 ea)	200-Small Fab - 2 - B4B	156208
15-GF637	1/4-28 45 Deg Short Grease Fitting <u>31</u>	12 Ea (2 ea)	200-Small Fab - 2 - B4B	156257x10 1935x2
91251A555 TBD 12				233515

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Waterjet - Omax - 1	M6061T6B0.500X07.000	1	1	0
200-Small Fab - 2 - B4B	0-345	1	7	0
	0-353	1	7	0
	13-14X3CSC	2	25	0
	15-GF637	2	28	0

Part Specifications

Specifications could not be found.

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DART AEROSPACE LTD		Work Order:	201642
Description: swash plate Regreasing tool		Part Number:	RBT18601
Inspection Dwg: RBT18601		Rev: 1C	Page 1 of 1

INSPECTION SHEET

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
.50	±.010	.495			VERN M6P-04	
Ø.390	±.005	.389			"	
1/8" I	± 1/32	.501			"	
Ø.265	±.005	.266			"	
.375	±.005	.375			"	
6.000	±.005	6.000			"	
4.235	±.005	4.235			"	
4.65	±.005	4.65			"	
Ø3.830	±.005	3.830			"	
Ø.213	±.005	.212			"	
1/4-28	GO / NO-go	GO			HT-303	
Ø.281	±.005	.280			VERN M6P-04	
.500	±.005	.500			"	
.25 I	±.010	.256			"	
3.000	±.010	2.999			"	
6.00	±.010	6.002			"	
6.75	±.010	6.751			"	
Ø5.000	±.005	5.000			"	
Ø4.000	±.005	4.000			"	
Ø.37	±.010	.37			"	
I.050	±.005	.051			"	
4.50BC	±.010	4.50			"	
1/4-20	GO / NO-go	GO			HT-293	
Ø4.300	±.005	4.999			VERN M6P-04	
.193	±.005	.194			"	
.050	±.005	.051			"	
.170	±.005	.171			"	
.220	±.005	.221			"	

Measured by: AIA. FMR	Checked by: Bp	QC Inspector:
Date: 19-11-10	Date: 19-11-12	Date:

Engineering Approval: (If necessary)	Date:
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Rev	Date	Change	Revised by	Approved
A	14.07.31	New Issue	KJ	

SHOP COPY

FOR RETURN TO

ENGINEERING

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SUBJECT TO AMENDMENT

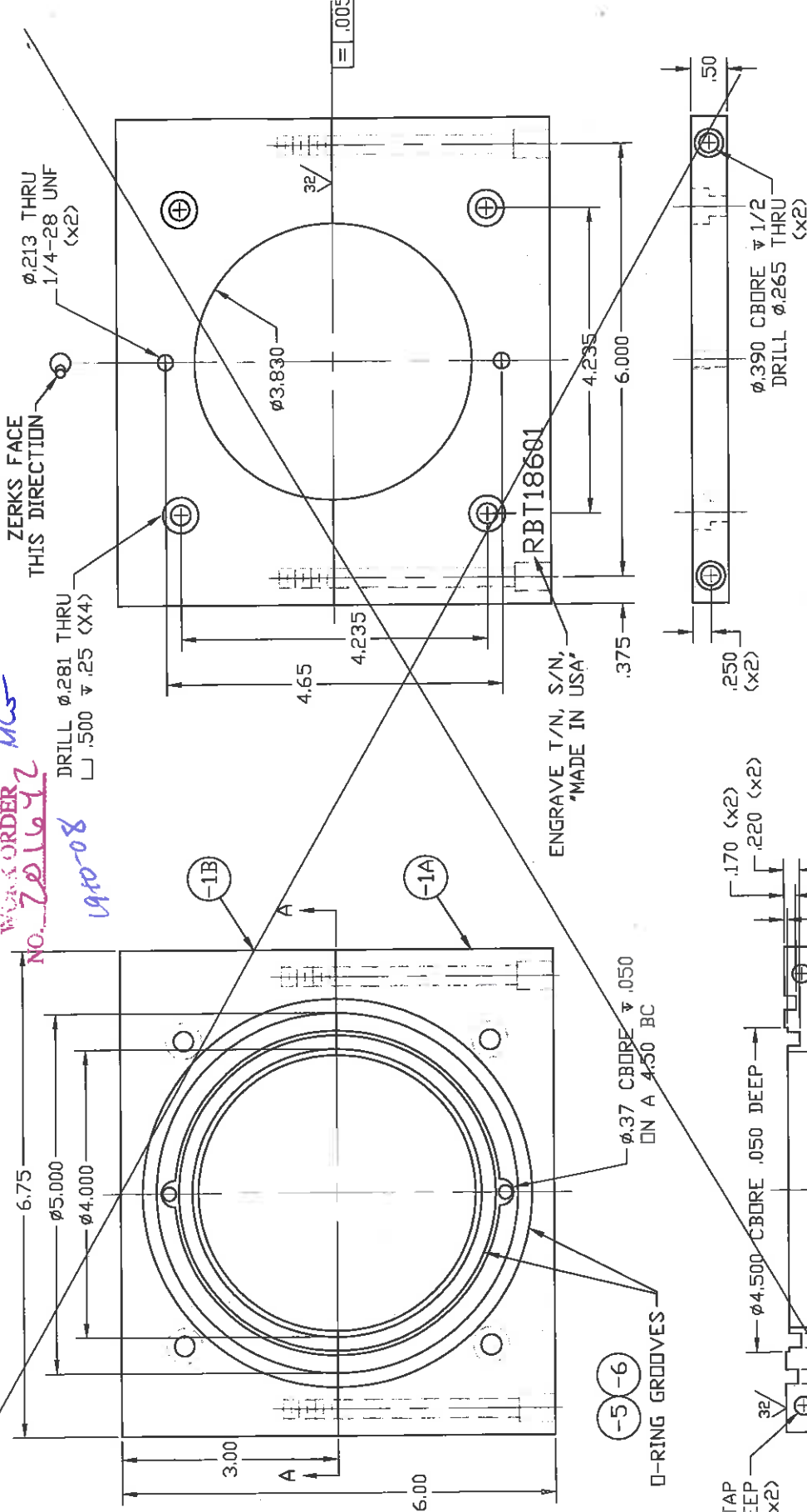
WITHOUT NOTICE

WORK ORDER

NO. 201642

1910-08

REVISIONS		
REV	DESCRIPTION	DATE
-3		



DRAWN BY: CHRIS PARR		MODIFIED BY: COLE	
REVISIONS		REVISIONS	
ANODIZE RED		ANODIZE RED	
UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
DIMENSIONS ARE IN INCHES		DIMENSIONS ARE IN INCHES	
TOLERANCES IN		TOLERANCES IN	
DECIMALS		DECIMALS	
XXX ± .000		XXX ± .000	
XX ± .03		XX ± .03	
X ± .015		X ± .015	
UNLESS OTHERWISE SPECIFIED		UNLESS OTHERWISE SPECIFIED	
1. DIMENSIONS APPLY AFTER PLATING		1. DIMENSIONS APPLY AFTER PLATING	
2. DIMENSIONAL LIMITS APPLY AFTER PLATING		2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
PART #	QTY	DESCRIPTION	USED ON MODEL
-1	2	6061 3 x 6 3/4	MD-500
-3	2	ZERK - 1/4-28 NF x 45	
-5	1	D-RING - 2-345N70 345 - BUNAN	
-6	1	D-RING - 2-345N70 353 - BUNAN	
-8	2	SOCKET HEAD CAP SCREW - 1/4-20 x 3 1/4	

RED BARN MACHINE	TITLE
SWASH PLATE REGREASING TOOL	
SIZE	DWG NO.
A	RBT18601
SCALE	DATE
NTS	8-22-00
SHEET	1 of 1



Entered: _____ Date: _____

WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

Route update only

NCR No. _____

Job: _____

Part No. _____

DISPOSITION

Rework ☐ ☐ ☐
Scrap ☐ ☐ ☐
Use-as-is ☐ ☐ ☐

DEPARTMENT/PROCESS

Skid-tube ☐ ☐ ☐
Machining ☐ ☐ ☐
Large Fab ☐ ☐ ☐

Cross tube ☐ ☐ ☐
Small Fab ☐ ☐ ☐
Finishing ☐ ☐ ☐

Eng. (Non-AW) ☐ ☐ ☐
Prod. Eng. Coord. ☐ ☐ ☐
Rec/Store/Packaging ☐ ☐ ☐

Engineering ☐ ☐ ☐
Water Jet ☐ ☐ ☐
Supplier ☐ ☐ ☐
Quality ☐ ☐ ☐

Date: _____

Sequence #: _____

QTY Affected: _____

MRB (QS1042)

Description Work Order Deviation

Disposition

Completed By _____

Lead hand / Supervisor _____

QC / QA Coordinator _____

Root Cause

Operator ☐ ☐ ☐
Manufacturing Process ☐ ☐ ☐
Equip/Tooling ☐ ☐ ☐
Handling/Preservation ☐ ☐ ☐
Material ☐ ☐ ☐
Product Improvement ☐ ☐ ☐
Process Improvement ☐ ☐ ☐
Human Factors ☐ ☐ ☐

FAULT CATEGORY

Pressure/Forced ☐ ☐ ☐
Bending ☐ ☐ ☐
Crushing ☐ ☐ ☐
Cracks ☐ ☐ ☐
Crimp/kink/Ripple/Wave/Twist ☐ ☐ ☐
Marks/Chatter ☐ ☐ ☐
Mislabeled ☐ ☐ ☐
Other/Details: _____

Contamination ☐ ☐ ☐
Misaligned/off center ☐ ☐ ☐
BOM/Route ☐ ☐ ☐
Broken/Damage/Defect ☐ ☐ ☐
Incomplete/Unclear Instructions ☐ ☐ ☐
Drill Holes ☐ ☐ ☐
Fit/Function ☐ ☐ ☐

Power Loss/Surge ☐ ☐ ☐
Folio/Program ☐ ☐ ☐
Grain Direction ☐ ☐ ☐
Weld ☐ ☐ ☐
Wrong Stock Pulled ☐ ☐ ☐
Out of Sequence ☐ ☐ ☐
Off-set/Set-up ☐ ☐ ☐

Positioned Wrong ☐ ☐ ☐
Outside Tolerance ☐ ☐ ☐
Drawing ☐ ☐ ☐
Finish ☐ ☐ ☐
Part Lost/Missing ☐ ☐ ☐
Misread ☐ ☐ ☐



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER POHB045103



Supplier: GRO002-VC
Group Altech
2455 Halpern
St Laurent
QC
H4S 1N9 Canada
Phone: 514-335-3686
Fax: 514-335-3868

Attention: Grenon, Sylvie

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: POHB045103

PO Date: 11/14/19

Due Date: 11/22/19

Purchase Order

Revision:

Revision Date:

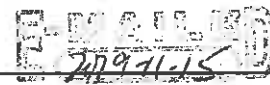
Ship-To Contact: Guerin, Kimberley
Phone: 613-632-5200 Ext: 298
kguerin@dartaero.com

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	201253-A	RBT18902-A	RBT18902 Rev C	Plate A -Issue P/O -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2 CLASS-2, Water sealant -Material type; 6061T6 -Certificate of Conformity is required (Outsource process- Anodize per QSI017 4.1.10.1) -Issue P/O; -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2 CLASS-2, Water sealant -Material type; 6061T6 -Certificate of Conformity is required	Firmed X3	-	11/22/19	3 pcs	0 pcs	3 pcs	\$0.01/pcs	\$0.03
NOV 21 2019												
Line Item Note: **RE-WORK** Original parts came in on POHB044955 - 3 of the 6 pieces rejected due to damaged parts												
2	175855	RB T103316-101-125	T103316 Rev B	Frame -Issue PO -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2 CLASS-2, Water sealant -Certificate of Conformity is required	Firmed X1	-	11/22/19	1 pcs	0 pcs	1 pcs	\$11.5384/pcs	\$11.54
NOV 21 2019												



Dart Aerospace Ltd.
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Hawkesbury, ON
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Canada

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PURCHASE ORDER POHB045103



Items

Line Item	Job	Part	Drawing	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3	201254	RBT18902-B	RBT18902 Rev C	Plate B -Issue P/O; -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2 CLASS-2, Water sealant -Material type; 6061T6 -Certificate of Conformity is required	Firmed X6	-	11/22/19	6 pcs	0 pcs	6 pcs	\$11.5384/pcs	\$69.23
4	201642	RBT18601	RBT18601 Rev 1C	Main Rotor Swashplate ReGreasing Tool -Issue P/O to GROUPE ALTECH -ANODIZE COLOR RED, PER IAW MIL-A-8625 TYPE-2 CLASS-2, Water sealant -Material type; -Certificate of Conformity is required	Firmed X6	-	11/22/19	6 pcs	0 pcs	6 pcs	\$11.5384/pcs	\$69.23
Grand Total:												\$150.03

Order Notes

Procurement Quality Clauses
A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Kimberley

Plex 11/15/19 9:57 AM Dart.Guerin.Kimberley



Certificat de Conformité / Certificate of Compliance

(024116-1)

2455, Rue Halpern | Saint-Laurent | Québec | H4S 1N9
 Tel: 514-335-3666 Fax: 514-335-3868
 www.groupaltech.com

Bon de Livraison / Packing Slip

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Livré à / Ship to

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 Tel.: 613-632-5200 Fax:

Client / Customer:

DART AEROSPACE LTD
 1270 ABERDEEN STREET
 HAWKESBURY, ON, K6A1K7
 CANADA
 BUYER:

Date expédition Ship date		Créé Par Generated By	Transport / No de Compte Courier / Acc. No.		Bon de commande Client Customer Purchase Order No.			
19-Nov-2019		Jigar Patel			POHB045103			
#Ligne Line#	No. de Série / # Pièce Part Number /Line Item Details Job # / Ref #	Description pièce(s)	CATG. U/M	Comm. /Ordered	Exp/ Shipped	Qté NC/ NC Qty	Qté. Serap/	À venir / Back Order
1	RBT18902-A Rev.C	RBT18902 ANO-RED [ANODIZE RED] AS PER IAW MIL-A-8625 TYPE - 2, CLASS - 2 WATER SEALANT	ANODIZE N/C	3	3	0	0	0
2	RBT103316-101-125 Rev.B	RBT103316 ANO-RED [ANODIZE RED] AS PER IAW MIL-A-8625 TYPE - 2, CLASS - 2 WATER SEALANT	ANODIZE CH	1	1	0	0	0
3	RBT18902-B Rev.C	RBT18902 ANO-RED [ANODIZE RED] AS PER IAW MIL-A-8625 TYPE - 2, CLASS - 2 WATER SEALANT	ANODIZE CH	6	6	0	0	0
4	RBT18601 Rev.1C	RBT18601 ANO-RED [ANODIZE RED] AS PER IAW MIL-A-8625 TYPE - 2, CLASS - 2 WATER SEALANT	ANODIZE CH	6	6	0	0	0

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Notes Additionnelles / Additional Notes

Epaisseur réelle
Actual Thickness

Inspecteur Qualité
Quality Inspector

Réçu par
Received By

Nous certifions que les pièces énumérées ci-dessus ont été traitées en conformité avec votre commande et vos spécifications et rencontrent les exigences.
 Notre responsabilité financière et légale ne sera pas supérieure au montant de la facture issue.

We hereby certify that the parts listed above have been process in accordance with your purchase order and specifications and are in conformance with your requirements.
 Our financial and legal responsibility will not be higher than the amount of invoice.